Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matters of	)	
	)	
Wireless Emergency Alerts	)	PS Docket 15-91
	)	
Amendments to Part 11 of the Commission's Rules	)	PS Docket 15-94
Regarding the Emergency Alert System	)	
	)	

COMMENTS OF THE NEW YORK CITY EMERGENCY MANAGEMENT DEPARTMENT IN RESPONSE TO THE FURTHER NOTICE OF PROPOSED RULEMAKING ON IMPROVING EFFECTIVENESS OF EAS AND WEA

Submitted Electronically September 10, 2018

INTRODUCTION

1. The City of New York's Emergency Management Department ("NYCEM" or "the Department" or "the agency") is pleased to submit comments to the above captioned matters in response to the Federal Communications Commission's ("FCC" or "the Commission") Further Notice of Proposed Rulemaking ("Notice" or "FNPRM") on additional measures to improve the effectiveness of both the Emergency Alert System ("EAS") and Wireless Emergency Alerts ("WEA").[1]

2. NYCEM, New York City (NYC) agency partners, representatives from emergency management and public safety agencies, elected officials, and associated national organizations have actively advocated for needed improvements to the nation's EAS and WEA systems for the past several years as part of the Commission's Notice of Proposed Rulemaking ("Notice" or "NPRM"), and Further Notice of Proposed Rulemaking ("Further Notice" or "FNPRM") proceedings in the above-captioned dockets, as well as in many *ex parte* conversations with Commission staff.[2] NYCEM sincerely appreciates actions taken by the Commission in its' 2016 Report and Order and 2018 Second Report and Order. The rules adopted in these orders, many of which do not go into effect until mid-to-late 2019, will strengthen our city's and the nation's ability to provide improved alerts and warnings to residents and visitors.

[1] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*. https://docs.fcc.gov/public/attachments/FCC-18-94A1.pdf. Released July 13, 2018.

[2] See, for example, NYCEM Comments to Notice of Proposed Rulemaking dated December 29, 2015; NYCEM Comments to Further Notice of Proposed Rulemaking dated December 8, 2016; Joint letter from Big City Emergency Managers, National Emergency Management Association, International Association of Emergency Managers, National Emergency Number Association, and the United States Conference of Mayors dated January 5, 2018; Letter from Mayor Bill de Blasio dated September 22, 2016; Letters from New York City Police Commissioner James P. O'Neill dated September 21, 2016 and January 3, 2018; Letter from New York City Fire Commissioner Daniel A. Nigro dated September 22, 2016; Comments of the Association of Public-Safety Communications Officials (APCO) filed December 8, 2016.

3. Despite these enhancements, however, significant gaps remain with the reliability of the nation's alerting system. Recent high-profile false alerts[3] have highlighted the need for enhanced alert originator training and standardized false alert response practices. Additionally, the emergency alerting technology available to state and local jurisdictions today falls well below what commercially-available technology can offer and what the general public has come to expect in the 21st century.[4] In order to restore public confidence in the nation's emergency alert system, the Commission must consider additional measures to improve the effectiveness of EAS and WEA.

NEED FOR FALSE ALERT AND LOCKOUT REPORTING[5]

4. Consistent with our previously filed comments,[6] NYCEM strongly encourages the Commission to establish rules that require Commercial Mobile Service (CMS) providers, broadcasters, and other regulated emergency messaging dissemination channels to (a) immediately notify state and local governments within the false alert's distribution area (e.g., state watch centers, public safety answering points, emergency management offices, etc.) when a false alert is transmitted; and (b) establish a dedicated mechanism by which EAS participants and other stakeholders report false alerts and lockouts. Immediate notification to state and local governments will allow officials to craft and broadcast correction information on all channels that received the false alert to assuage concern and limit unnecessary calls to 911 and/or unnecessary protective actions based on the content of the false alert. As noted in previous comments, NYCEM suggests that EAS participants notify local government(s) of a false alert and issue a cancellation notification immediately. Within 24 hours, EAS participants should have to notify the Commission.

5. Creating a dedicated mechanism for false alert and lock out reporting will enable the Commission to track and uniformly report false alerting trends for the first time. For example, the Commission will be able to evaluate possible bases for the increase in false alerts, including, but not limited to, insufficient alert originator training, a coordinated cyber-attack, or other improper operational security procedures, such as the Commission's finding that TV stations were vulnerable to false alert attacks "because they failed to change manufacturer default passwords on their EAS equipment."[7] This analysis will strengthen alert originator capabilities, prevent false alerts, and, therefore, restore public confidence in the public alert and warning system.

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[3] On January 13, 2018, the Hawaii Emergency Management Agency mistakenly sent an incoming ballistic missile alert that was not revoked for over 38 minutes (see New York Times' *Hawaii Panics After Alert About Incoming Missile is Sent in Error*. https://www.nytimes.com/2018/01/13/us/hawaii-missile.html. Dated January 13, 2018); additionally, on February 6, 2018, AccuWeather accidently messaged a monthly NWS tsunami test as an actual tsunami warning (see AccuWeather's *AccuWeather Responds to Miscoded NWS Tsunami Warning.* https://www.accuweather.com/en/weather-news/accuweather-responds-to-miscoded-nws-tsunami-warning/70004074. Dated February 6, 2018).

[4] See DC Homeland Security and Emergency Management Agency's *Comment Filing*, page 4. Dated May 29, 2018.

[5] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 17, ¶ 40. Released July 13, 2018.

[6] See NYC Emergency Management's *Comment Filing*, page 10. Dated June 8, 2016.

[7] See FCC's *Notice of Proposed Rulemaking*, page 45. Released January 29, 2016.

AMENDING STATE EAS PLANS TO INCLUDE FALSE ALERT PREVENTION PROCEDURES[8]

6. The Commission's FNPRM requested comment on requiring State EAS Plans to include procedures to help prevent false alerts. NYCEM supports revising State EAS Plans to include false alert prevention procedures with steps that alert originators can actively implement and adhere to. NYCEM recommends the Commission work with state and local emergency managers to identify false alert prevention best practices and lessons learned directly from jurisdictions. For example, NYCEM requires two-person authentication prior to issuing any emergency alert, and issues test messages weekly. While NYCEM recognizes that each alert originator's resources and capabilities differ, it strongly believes that best practices exist and should be socialized with all alert originators and broadcasters. NYCEM is committed to being a partner in the false alert prevention process.

ENSURING WEA DELIVERY TO SUBSCRIBERS[9]

7. NYCEM recognizes that members of the public, who have not opted-out of receipt of WEA alerts on their mobile devices, may not receive a particular WEA message for a variety of reasons.**[10]** Because of the issues CMS providers raise – which include 3G capability limitations – NYCEM strongly encourages the Commission to adopt rules that allow the nation's WEA system to capitalize on the immense benefits offered by the forthcoming 5G technology. Though CMS providers acknowledge limitations of the current system, they assert "the arrival of 5G will not alter the WEA technology roadmap."[11] As many jurisdictions have stressed in comment filings,[12] improving the WEA system on 5G and future networks "is not only necessary, but expected by the public." [13] NYCEM finds the unwillingness of CMS providers to improve the WEA system (which they acknowledge is imperfect) while touting the advanced features supported by 5G (such as remote surgery, commercial drones, and autonomous vehicles)[14] incongruous, self-serving, and completely unreasonable. NYCEM emphatically urges the Commission to adopt rules that strengthen the capability and reliability of nation's WEA system concomitant with 5G implementation.

8. NYCEM strongly encourages the Commission to adopt rules that would require CMS providers to log messages and notify alert originators when there are downstream distribution delays or failures. During a WEA activation in January 2015, NYCEM identified that a particular network's devices did NOT receive the message. After the Federal Emergency Management Agency (FEMA) notified the CMS provider, the provider found a significant gap in its system that required resolution prior to its consumers being able to receive WEA messages. It is imperative that these issues be resolved *prior* to issuance of an emergency message, and the Commission's rules should impose such requirements.[15]

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[8] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 18, ¶ 44. Released July 13, 2018.
[9] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 20, ¶ 46. Released July 13, 2018.
[10] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 20, ¶ 46. Released July 13, 2018.
[11] See AT&T's *Comment Filing*, page 4. Dated May 29, 2018.
[12] See NYC Emergency Management's *Comment Filing,* page 4. Dated June 27, 2018. See Harris County Office of Homeland Security & Emergency Management's *Comment Filing*, page 1. Dated May 23, 2018.
[13] See DC Homeland Security and Emergency Management Agency's *Comment Filing*, page 4. Dated May 29, 2018.
[14] See CTIA's *The Race to 5G.* https://www.ctia.org/the-wireless-industry/the-race-to-5g. Accessed May 31, 2018.
[15] See NYC Emergency Management's *Comment Filing*, page 14. Dated December 29, 2015.

REPORTING WEA PERFORMANCE THROUGH MANY-TO-ONE FEEDBACK[16]

9. Consistent with previous filings,[17] NYCEM "emphasizes the need for many-to-one capability [bi-directional feedback] to be added to the WEA system."[18] In addition to allowing stakeholders to report on WEA performance, this would also enable emergency management agencies to "receive, process, map, and analyze large datasets in real-time during an emergency."[19] As the City of Seattle Office of Emergency Management found following the Cascadia Rising Exercise, staff was "simply too small to rapidly assess damage in a large incident. Enabling the public to provide information back…would help first responders gain situational awareness much earlier in an incident."[20]

10. The Commission's FNPRM requested comments on technical ways to get feedback automatically from WEA recipients.[21] NYCEM encourages the Commission evaluate incorporating "read-receipt-like" delivery confirmation technology where devices receiving WEA messages would automatically confirm message delivery upon receipt of the alert. This limits the effort required on behalf of the WEA recipient, and leverages a capability that has long been included in consumer messaging technologies. For example, iMessages sent and received on Apple devices show the sender that a message was "delivered," and at the recipient's preference, can even show the message was "read." Similar functionality was available on BlackBerry Messenger messages (BBM) more than a decade ago.

Image 1: Example of "Delivered Receipt" in iMessage

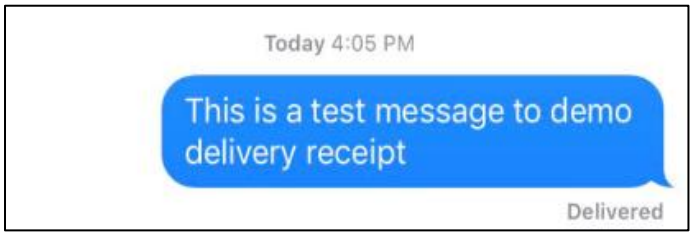
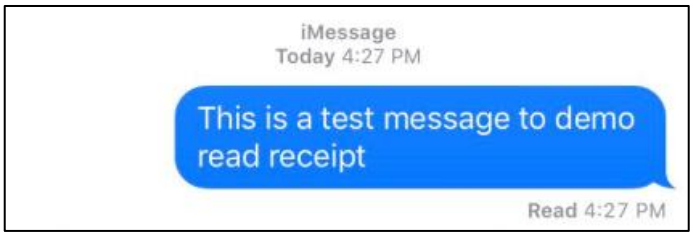


Image 2: Example of "Read Receipt" in iMessage



NYCEM recognizes that most CMS providers have adopted broadcast technology for WEA delivery purposes and such technology is one-directional. However, NYCEM asserts that "read receipts" or similar delivery confirmation mechanisms can be handled via other existing network pathways, including SMS and/or data channels. NYCEM finds tremendous utility in delivery confirmations even if such delivery confirmations are slightly delayed due to network congestion. NYCEM also notes that

[16] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 21, ¶ 48. Released July 13, 2018.
[17] See NYC Emergency Management's *Comment Filing*, page 4. Dated May 12, 2017.
[18] See NYC Emergency Management's *Comment Filing,* page 2. Dated July 10, 2017.
[19] See NYC Emergency Management's *Comment Filing,* page 2. Dated July 10, 2017.
[20] Letter from Barb Graff, Director of Emergency Management for the City of Seattle, September 22, 2016 at ¶6. See also, *id.* at page 2.
[21] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 21, ¶ 48. Released July 13, 2018.

delivery confirmations are another WEA gap that should be incorporated (and easily solvable) into the forthcoming 5G technology.

11. The Communications, Security, Reliability, and Interoperability Council (CSRIC) V's subgroup discussion on "Many-to-One," found FEMA to be "in an ideal position to perform information aggregation."[22] This will alleviate the burden on both alert originators and mobile service providers, and ensure reliable protections can be applied to all collected data.

INCONSISTENT WEA DELIVERY[23]

12. NYCEM greatly appreciates the Commission's request for comments to improve WEA performance. Inconsistent WEA delivery erodes consumer confidence in alerting systems and fails to deliver potentially life-saving information to the public. As such, NYCEM strongly encourages the Commission review measures to address inconsistent WEA delivery. As the Commission is aware, NYCEM was an early-adopter of WEA technology and has used the system for both natural and human-made incidents. NYCEM has activated the WEA system only eight (8) times since 2012 despite being an early adopter, being responsible for a high-threat area, and having personnel on-duty 24x7 to activate the system. In order to maximize the public's response to WEA messages and limit warning fatigue, NYCEM is extremely judicious in its use of the system – opting only to activate it for the most critical of emergencies – when lives are on the line. Subsequently, when we activate the system, the message needs to be delivered to every device in the target area, not a subset of devices. However, in the eight (8) times we have used the system, NYCEM's own staff reported inconsistent WEA delivery and we have received similar anecdotal reports from the public. NYCEM recognizes that radio frequency propagation is imperfect and particularly so in densely populated urban areas, like NYC. To mitigate such propagation issues, NYCEM advises the Commission to adopt rules requiring CMS providers re-broadcast WEA messages every three (3) to five (5) minutes for the entirety of the broadcast duration as specified by the alert originator or until cancelled. The current WEA standards will only alert the recipient device once, but the re-broadcast will increase the number of successful deliveries to devices which did not receive the alert when first broadcast either due to radio frequency propagation issues or the location of the device outside the target area at the same time of the initial broadcast.

13. NYCEM greatly appreciates the Commission's rule that requires participating CMS providers to deliver alert messages to an area that matches the target area specified by alert originators (rather than a best approximate) and limiting overshoot to 1/10th of a mile.[24] This rule change is the single greatest improvement in the nation's WEA system since the program's inception. However, NYCEM is aware that the ongoing standard-setting process may only require devices to determine their presence in the target area when the WEA message is *first* transmitted and will **not** check for presence in the target area subsequently. NYCEM feels this approach is ill-advised, not in the interest of public safety, and counter to the recognized benefits of improved geo-targeting upon which the Commission

[22] See CSRIC V Working Group 2: Emergency Alerting Platforms' *Final Report & Recommendations*¸ page 28. Dated September 2016. See NYCEM's *Notice of Ex Parte Filing,* page 3. Dated September 22, 2016.
[23] See FCC's *Report and Order and Further Notice of Proposed Rulemaking*, page 21, ¶ 49. Released July 13, 2018.
[24] See FCC's *Second Report and Order and Second Order of Consideration*, page 4. Released January 21, 2018.

correctly based its recent decision. For example, in a hazardous materials situation, an alert originator may disseminate a WEA message advising individuals in particular area to evacuate. It is as equally important that devices within the target area receive the message immediately as it is for devices that subsequently *enter* the target area to receive the message. The populations within NYC are extremely mobile and, therefore, it is not ideal for the "one and done" model for handling geo-targeting. NYCEM advises the Commission to adopt rules that require regular re-checks for a device's presence in the target area and offers two (2) approaches for the Commission's and industry's consideration, with our preference being Option (a):

a. **Calculated/Relative Location Interval Checks –** When a WEA message is received by a device and the device finds that it is **not** within the target area it rechecks its location relative to the target area based on its determined distance from the target area boundary. For example, if the device calculates that it is 25 miles away from the target area it should check *less* frequently than if the device calculates it is one (1) mile away from the target area. NYCEM believe this approach balances the need for rechecking with potential battery impacts and network resource constraints.
b. **Regular Interval Checks –** When a WEA message is received by a device and the device finds that it is **not** within the target area it rechecks every five (5) minutes to determine if it the device entered the target area. This process repeats until (a) the WEA message expires; (b) the WEA message is cancelled; or (c) the device enters the target area and the WEA message is displayed.

CONCLUSION

14. NYCEM greatly appreciates the opportunity to comment on the Commission's FNPRM. As an estimated 77 percent of U.S. adults own a smartphone, we should continually strive to improve the effectiveness of the EAS and WEA system.[25] This is especially paramount given recent high-profile false alerts that have eroded public confidence in alerts and warnings. NYCEM is eager to continue engaging with the Commission, the wireless industry, and other stakeholders to bring EAS and WEA into the 21st century.

[25] See Pew Research Center's *Mobile Fact Sheet*. http://www.pewinternet.org/fact-sheet/mobile/. Accessed September 5, 2018.